

External friction and technological...

S/148/61/000/001/006/015
A16/A133

sulfurized and mineral oils, oleic acid, water glass, drying oil, soap emulsion, and all these lubricants with different solid fillers, such as silvery graphite, talcum, sulfurous molybdenum, mica, zinc white, organic MoS_2 , commercial sulfur. The presence of fatty acids in the lubricant speeded up 10 - 20 times the disappearance of roughness, e.g. oleic acid added to the lubricant made a sand-blasted mandrel surface as smooth as class X within a few minutes. In the case of machine oil with graphite the optimum roughness was stated to be $0.5 - 0.9 \mu$ (VIII - IX class finish), and for sulfurous molybdenum with machine oil - $1.5 - 2.0$ (VI class). The experiments made it possible to determine the basic requirements for the cold rolling of tubes - to form a tough plasticized layer on the surfaces of tubes and mandrels. Such a layer prevents the sticking of tube metal to the mandrel and even out deformations in tube wall. It must also have high lubricating properties. Liquid lubricants do not form such layers at the high pressures and temperatures, developed in cold rolling and drawing. Viscous lubricants containing surface-active substances (sulfure or chlorine compounds, or other) or solid fillers (graphite, talcum, mica, or other) can meet the requirements, but the properties of the complex lubricants depend on the lu-

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lubricating properties of the base (liquid lubricant) and the filler, and on the physical and chemical affinity of the liquid lubricant and the filler. It is known that a small amount of silvery graphite increases 8 times the surface area moistened with a drop of machine oil (Ref. 4: I. Lomas. Machinery Lloyd, April 1954, no. 9), but the high antifriction properties of the mixture are due not only to the physical-chemical affinity of the components but also to the high lubricating property of silver graphite. Talcum has a lower antifriction property, and added to oil it does not prevent sticking. Sulfur added to castor oil with talcum reduces the metal pressure on the mill rolls due to its surface activeness, but it affects the copper film coated on tubes. Colloidal mixtures containing oleic acid and soap emulsion have the same effect and are not good for tool surface. Colloidal graphite is no good filler. Mica is a better filler than talcum. Sulfurous molybdenum has high antifriction properties in combination with machine or castor oil (Fig. 5). The application method was described previously (Ref. 5: I. M. Pavlov, Yu. F. Shevakin, F. S. Seydaliyev. Izv. vyssh. uch. zav. Chernaya metallurgiya, 1958, no. 3). Applied to sand-blasted mandrels, MoS_2 reduced the metal pressure on rolls not less than by 15%, considerably decreased the axial pressure on the billet and raised the work life of man-

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drele 2 - 4 times. In the case of particularly thin-walled tubes, 45.8 x 0.5 mm, from 1Kh18N9T steel, chromium plated mandrels withstood only 30 m rolled tube, and sand blasted mandrels coated with MoS₂ withstood 300 m tubes. Some difficulties were experienced at the very beginning of rolling on such mandrels. The method described in Ref. 5 is being used. Lubricants with MoS₂ should not contain any surface-active substances. MoS₂ forms a highly plasticized layer on surfaces and reduces the wall nonuniformity. The authors think that it is completely wrong to develop the outer-friction theory from three different points of view - roughness theory, blocking (welding) theory, and molecular theory, for all three are closely interconnected. The major factor in cold tube rolling from carbon steel and nonferrous metals or alloys is mechanical engagement of the rough surface, and in the case of very thin or thin high-alloy steel tubes rolled at a pressure attaining 250 kg/mm² on the surfaces in contact - it is welding, and only a highly plasticized lubricant layer makes a normal work process possible. Active molecular interaction between the lubricant and the contacting surfaces is necessary to produce such a layer. Conclusions: 1) The external friction conditions in cold tube rolling are considered and

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the effect of two major factors in the process is determined. 2) A large group of different lubricants and fillers is investigated. The connection is revealed between the lubricating properties of complex lubricants and their components, as well as the role of the affinity of components. 3) A new lubrication method by sulfurous molybdenum has been developed and tested in practical application. The role and effect of technological lubricants is considered. There are 6 figures and 9 references: 8 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: I. Lomas, Machinery Lloyd, April, 1954, no. 9.

ASSOCIATION: Moskovskiy institut stal (Moscow Steel Institute)

SUBMITTED: January 20, 1960

Card 5/6

S/133/61000/012/003/006
A054/A127

AUTHORS: Shevakin, Yu.F., Candidate of Technical Sciences, Docent; Sedykh, G.A., Engineer; Seydaliyev, F.S., Candidate of Technical Sciences; Naumenko, G.N.; Drobot, S.T.; Rumyantsev, N.G.; - Technicians

TITLE: Cold-rolling stainless steel tubes with increased drafts

PERIODICAL: Stal', no. 12, 1961, 1,105 - 1,107

TEXT: The degree of draft depends on the stability of the stand, the ductility of the material being rolled and the service life of the operating units. It is known from experience that in the conventional processes the stability of equipment is not utilized in full (the coefficient of the strength of equipment utilization for cold-rolling mills does not exceed 0.5). This factor, therefore, would permit a higher degree of deformation, which, on the other hand, would definitely shorten the life of the work tools. The service life of the latter could be increased by reducing the number of passes and raising the degree of draft. Tests were carried out to establish the possibilities of cold-rolling tubes with greater draft and fewer passes. The tests were made partly on the XПТ-55 (KhPT-55) type rolling mill, with tubes 70 x (5 - 6) mm in size,

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Cold-rolling stainless steel tubes with

and partly on the XPT-75 (KhPT-75) and XPT-32 (KhPT-32) stands, with tubes 21 x 1.5 mm in size [93 x (6 - 8) mm → 53 x 3.5 mm → 21 x 1.5 mm]. It was found that reducing the number of passes improved the tube quality and rendered the finishing of the inner tube surface more easy. The power consumption for deformation and the tool consumption dropped (the latter by 20 - 25%). When rolling 70 x 6 → 38 x 2 mm tubes, cracks appeared in the finished tubes, due to tension stresses. These could be eliminated by turning over the tube twice on the KhPT-55 stand, which made it possible to increase the feed from 9 - 10 mm to 10 - 12 mm. When rolling 21 x 1.5 mm tubes according to this new method, buckles were observed on the tube surface, mainly caused by the great conicity of the mandrel and the groove width. To prevent these defects, the conicity of the mandrel was reduced to 0.03 and a considerable draft was applied at the beginning. Thus, buckles no longer formed and the output of the KhPT-55 mill was raised by 20% (the yield of grade-I product was 84% instead of 57% obtained when the first modification of the process was used). The consumption of groove pairs during 6 months was 169 instead of 206 (with the old method), while, moreover, the number of mandrels required decreased from 1,747 to 1,505 during the same period. However, the new rolling process requires material of high ductility. When rolling tubes of 1X18H9T (1Kh18N9T) steel, its strength limit

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should not be higher than 65 kg/mm^2 and its relative elongation not less than 39%. There are 5 figures and 1 table.

ASSOCIATION: Moskovskiy institut stali i Yuzhnotrubbyy zavod (Moscow Steel Institute and Yuzhnotrubbyy Plant).

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S/148/62/000/011/005/013
E193/E383

/ 1300

AUTHORS: Shevakin, Yu.F. and Seydaliyev, F.S.

TITLE: Specific features of cold-rolling thin-walled tubes

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Chernaya metallurgiya, no. 11, 1962, 133 - 139

TEXT: The object of the present work was to explore the possibility of using existing type of cold-rolling equipment (Pilger-type rolls) for fabricating tubes with a wall-thickness less than 0.8 mm. The limitations of the process are imposed by the following factors: roll pressure; axial loads acting on the tube; quality of the finished product; losses in the metal processed; sturdiness and productive capacity of the rolls. The results of the analysis of pertinent experimental data can be summarized as follows: 1) Productive capacity of the rolls. This is usually given as $m\mu_{\Sigma}$, where m (mm) is the traverse of the tube in one complete rolling cycle and μ is the ratio of the cross-section areas of the tube before and after rolling. For equal values of $m\mu_{\Sigma}$ rolling of tubes with thinner walls is effected with smaller

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Specific features of

reductions in the momentary deformation zone and a smaller contact area; since the total roll pressure is also lower, the productive capacity of the rolls cannot be regarded as a factor limiting the thickness of the cold-rolled tubes. 2) Axial loads. The maximum compressive forces acting on the tube do not exceed 10% of the total roll pressure in rolling standard-sized tubes; this value can be doubled or trebled when thin-walled tubes are rolled. This means that in some cases the axial loads during rolling of thin-walled tubes could exceed the yield point of the metal with resultant damage to the end portion of the tube. Both the roll pressure and the axial loads can often be sufficiently reduced by the application of efficient lubricants such as MoS_2 . When further

reductions in roll pressure and axial loads are necessary, they can be attained by the following means: a - rotating the tube twice, i.e. before both the forward and reverse movements of the carriage; b - changing the radius ρ_w of the pitch circle of the driving gear; the optimum ρ_o/ρ_w ratio (where ρ_o is the radius of the roll) has been found to be approximately 1.1. 3) High quality of the final products can be attained by: a - using a mandrel with a Card 2/3

SHEVAKIN, Yu.F.; SEYDALIYEV, F.S.

Characteristics of thin-walled pipe manufacture on cold-rolling
mills. Izv.vys.ucheb.zav.; chern.met. 5 no.11:133-139 '62.
(MIRA 15:12)

1. Moskovskiy institut stali splavov.
(Pipe mills)

SHEVAKIN, Yu. F., doktor tekhn. nauk; SEYDALIYEV, F. S., kand. tekhn. nauk.

Geometry of the center of deformation during pipe expansion by
transverse rolling. Sbor. Inst. stali i splav. no.40:388-394
'62. (MIFA 16:1)

(Pipe mills)
(Deformations(Mechanics))

AM4016357

BOOK EXPLOITATION

S/

Shevakin, Yuriy Federovich; Ry*tkov, Aleksandr Mikhaylovich;
Seydaliyev, Fikrat Seydali-ogly*

Manufacture of nonferrous metal pipe; engineering computations (Proizvodstvo trub iz tsvetnykh metallov; tekhnologicheskiye raschety*) Moscow, Metallurgizdat, 1963. 356 p. illus., biblio. Errata slip inserted. 2230 copies printed. Editor: K. N. Krucher; Publishing house editor: K. D. Misharina; Technical editor: P. G. Islent'yeva; Cover artist: I. V. Chichkina

TOPIC TAGS: cylindrical pipe, shaped pipe, extrusion, cold rolling, drawing, copper pipe, brass pipe, copper-nickel alloy MNZh5-1, nickel pipe, nickel-alloy pipe, bronze BrOF4-0.25

PURPOSE AND COVERAGE: This book is intended for engineers and technicians at pipe-producing plants and scientific-research and design institutes, and also for senior students specializing in the forming of metals. The manufacture of cylindrical and shaped pipe made of heavy nonferrous metals and alloys by extrusion, cold rolling, and drawing is analyzed. The method of computing the

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forces, the groove design of the working tool, the initial dimensions of the billet, the number of passes, and efficient technological systems is given for each forming procedure. Each chapter is illustrated with sample computations. Equipment and specifications for pipe made of different alloys, designated by GOST and TU standards, are tabulated. The authors thank Engineers G. N. Strakhov and A. V. Koshurin.

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Ch. III. Extrusion tool - - 94

Section II. Cold rolling

Ch. IV. Brief characterization of rolling mills and technology - - 119

Ch. V. Forces during cold rolling of pipe - - 144

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Ch. VI. Designing the grooves of the working tool in the case of rolling
cylindrical pipe - - 175

Ch. VII. Designing the grooves of the working tool in the case of rolling
shaped pipe - - 207

Section III. Drawing

Ch. VIII. Brief characterization of equipment and technology - - 255

Ch. IX. Forces during drawing - - 266

Ch. X. Designing the grooves in the tool and computing the course of drawing - -
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SUB CODE: ML

SUBMITTED: 10Jul63

NR REF SOV: 094

OTHER: 012

DATE ACQ: 10Dec63

Card 3/3

SEYDALIYEV, F.S.; SHAYKEVICH, V.S.; KOZLOV, O.F.; SHEVAKIN, Yu.F.

Experimental investigation of metal shape changing during the
pipe expansion process with conical rolls. Izv. vys. ucheb.
zav.; chern. met. 6 no.7:112-116 '63. (MIRA 16:9)

1. Moskovskiy institut stali i splavov.
(Pipe mills)

SEYDALIYEV, F.S.; SHEVAKIN, Yu.F.

Calculating reductions during the cross rolling of pipe on
mandrells. Izv. vys. ucheb. zav.; chern. met. 6 no.9:114-
119 '63. (MIRA 16:11)

1. Moskovskiy institut stali i splavov.

KOZLOV, O.F.; SHEVAKIN, Yu.F.; SEYDALIYEV, F.S.

Contact surface during the cross rolling of pipe on a
cylindrical mandrel. Izv. vys. ucheb. zav.; chern. met. 7
no.9:81-87 '64. (MIRA 17:6)

1. Moskovskiy institut stali i splavov.

SHEVAKIN, Yu.F.; SHAYKEVICH, V.S.; SEYDALIYEV, F.S.

Determining the specific and full pressure during the roll expansion of tubes. Izv. vys. ucheb. zav.; chem. met. 8 no.13
65-70 '65 (MIRA 1831)

1. Moskovskiy institut stali i splavov.

SHEVAKIN, Yu.F.; VERNIK, Yu.A.; SEYDALIYEV, F.S.

Specific pressure during cold transverse plug rolling of tubes.
Izv. vys. ucheb. zav.; Chern. met. 8 no.1:71-77 '65
(MIRA 18:1)

1. Moskovskiy institut stali i splavov.

L 54725-65 EWT(m)/EWP(w)/ENA(d)/T/EWP(t)/EWP(k)/EWP(b)/ENA(c) Pf-4 JD/HW
 UR/0148/65 000/005/0082/0084
 621.774.35 539.43:620.17
 24
 23
 8

AUTHOR: Shevakin, Yu. F.; Popov, M. V.; Seydaliyev, F. S.

TITLE: The influence of an alternating stress scheme on the mechanical properties of metal

SOURCE: IVUZ. Chernaya metallurgiya, no. 5, 1965, 82-84

TOPIC TAGS: pipe manufacture, stress analysis, metal mechanical property

ABSTRACT: The authors have investigated the condition of stress of a particular tube rolling process and the resulting mechanical properties of specimens cut from positions on the tube circumference. One and two rotations of the tube after the second pass is seen to lower the tensile strength (7-1%) and yield strength (10-15%) while practically not changing the ductility properties. Substantial improvements in mechanical properties are compared with sheet rolling and upsetting processes with equivalent deformation were noticed. Differences in properties about the perimeter are accounted for by the unequal reduction in cross section during rolling. From the dynamics of cold rolling of tubes, areas in tension before the

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L 54725-65

ACCESSION NR: AP5013323

reverse pass become areas of compression after billet reversal and vice versa. Cold rolling of tube can thus be regarded as deformation under a scheme of alternating stress, the residual stress from one cycle adding algebraically to the stress necessary for the next cycle. Since the residual stress from the previous cycle is of opposite sign it lowers the energy requirements for the present cycle. Orig. art. has: 2 figures, 2 tables.

ASSOCIATION: Moskovskiy institut stali i splavov (Moscow Institute of Steel and Alloys)

SUBMITTED: 11Sep64

ENCL: 00

SUB CODE: MM, A5

NO REF SOV: 007

OTHER: 000

Card 2/2

SHEVAKIN, Yu.F.; SHAYKEVICH, V.S.; SEYDALIYEV, F.S.

Speed conditions in the process of roller expansion of tubes.

Izv. vys. ucheb. zav.; chern. net. 8 no.5: 98-104 '65.

(MIRA 18:5)

1. Moskovskiy institut stali i splavov.

L 1384-66 EWT(m)/EWP(t)/EWP(k)/EWP(h)/EWA(c) JD/HW

ACCESSION NR: AP5013074

UR/0:49/65/000/001/0136/0141

AUTHOR: Shevakin, Yu. F.; Kozlov, O. F.; Seydaliyev, F. S.

TITLE: Investigation of the process of transverse tube rolling

SOURCE: IVUZ. Tsvetnaya metallurgiya, no. 1, 1965, 136-141

TOPIC TAGS: metal tube, metal rolling, plastic deformation

ABSTRACT: The fundamental characteristics of the tube rolling process are experimentally studied using stock with dimensions of 146 x 5.5-8 mm. The rolling was done by a driven mandrel with non-driven rolls. The working rolls were located on opposite sides of the workpiece and had a complex shape consisting of a cylindrical supporting section, a collar, a cylindrical grooving band and a tapered tail section. The axial feed of the workpiece, the angle of the roll flange and the absolute reduction in wall thickness were varied within wide limits during the rolling process. An oscillographic record of the force parameters was kept by using strain gauges and amplifying equipment. Deformation was studied by determining the dimensions of the tube before reaching the deformation point and the tube dimensions at the point itself. The hardness of the metal was measured with respect to thickness

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ACCESSION NR: AP5013074

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and length of the specimen. Analysis of the experimental data indicates that when reductions in wall thickness are small and roll collar angles are large, axial stresses arise in the metal ahead of the collar which exceed the shearing strength of the metal. Thus the surface metal is sheared off and there is a buildup ahead of the roll flange. This metal buildup (increase in wall thickness) reduces the axial stresses, and equilibrium is reached at the deformation point when the stresses reach a certain minimum value. The metal buildup increases the dimensions of the deformation source causing nonuniformity in deformation of the metal with respect to thickness. Outside the contact zone, the length of the workpiece is reduced and the cross section is increased, while at the deformation point there is an increase in the length of the specimen and a reduction in tubular cross section. This type of deformation increases energy consumption since the contact surface may be doubled. Orig. art. has: 5 figures, 1 table.

ASSOCIATION: Kafedra tekhnologii i avtomatizatsii prokonnogo proizvodstva Moskovskogo instituta stali i splavov (Department of the Technology and Automation of Rolling Production, Moscow Institute of Steel and Alloys)

SUBMITTED: 10Mar64

NO REF SOV: 004

ENCL: 00

OTHER: 000

44.55 SUB CODE: IE, MM

Card 2/2

SHEVAKIN, Yu.F.; POPOV, M.V.; SEYDALIYEV, F.S.; ODINTSOV, B.F.

Investigating strains in the connecting rods of cold pipe rolling mills
with counterweight balancing. Izv. vys. ucheb. zav.; Chern. met. 8 no.7:
124-127 '65. (MIRA 18:7)

1. Moskovskiy institut stali i splavov i Ukrainskiy nauchno-issledovatel'-
skiy trubnyy institut.

PAVLOV, I.M., prof.; SHEVAKIN, Yu.P., kand.tekhn.nauk; SEYDALIYEV, Yu.S., inzh.

Using sulfurous molybdenum as a lubricant in the cold rolling of pipe.
Izv. vys. ucheb. zav.: Chern. met. no.7:191-193 J1 '58.

(MIRA 11:10)

1. Moskovskiy institut stali. 2 Chlen-korrespondent AN SSSR (for Pavlov).

(Metal-working lubricants)

SEYDANETOV, YA. A.

SEYDANETOV, YA. A. "Results of Tests Performed with Ultra-sulfur in Oidium Control
of Grapes," Zashchita Rastenii, no. 10, 1936 pp. 95-102.
A21 P942

SO: SIMA SI-90-53, 15, Dec. 1953

SEYDEL, EDGAR.

SEYDEL, Edgar

Yugoslavia (430)

Technology

Naprezanja u pantljičastim fundamentima pri stepenasto promenljivom
gradevnom tlu. Beograd, Građevinska knjiga, 1950. 23p. (Savezni institut
za građevinarstvo; Grupa: Konstrukcije. Publikacija, br. 3) (Stresses
in foundation beams with abruptly changing foundation soil. Bibl.)

East European Accessions List. Library of Congress. Vol 2. no 3,
March 1953. UNCLASSIFIED

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
PROCESSES AND PROPERTIES INDEX																																																			
<p>Some strains of the coli group which have lost the property of fermenting lactose. <u>JULIA SHYDEL</u>... <i>Med. Doferaducalno Spolecano</i> 15, 53-62 (62-3 in French) (1932).— This capacity was restored to 38 of 44 strains sepd. from water, feces, urine and blood by subsequent cultivation in peptone water contg. 1% lactose. Conclusion: The property of fermenting lactose is unstable and should be used with caution in classifying this group. S. LAUFER</p>																																																			
<p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			
<p>1ST AND 2ND ORDERS</p>																																																			

SNYDEL, J., WALECKI, H., WISNIEWSKA, Z.

Evaluation slide method of determination of virulence of
Corynebacterium diphtheriae. Przegl. epidem. 7 no.3:171-178
1953. (GIML 25:5)

1. Of the State Institute of Hygiene, Warsaw.

STEPANOV, V.P.; MAKSIMOV, S.I.; GAVRILOV, M.N.; SEYDEL, L.R.

Electronic instrument for measuring the interface level
of raffinate and extract solutions. Mash. i nef. obor.
no.3:22-25 '64. (MIRA 17:5)

1. Nauchno-issledovatel'skiy i proyektnyy institut po
kompleksnoy avtomatizatsii proizvodstvennykh protsessov
v neftyanoy i khimicheskoy promyshlennosti.

PODLEGAYEV, M., kand.tekhn.nauk; SEYDEL', Ye.

Technology of the production of egg melange in England. Mias.
ind.SSSR 31 no.5:61-62 '60. (MIRA 13:9)
(Great Britain--~~Eggs~~--Preservation)

BLAYVAS, L., inzh: SEYDER, E., inzh: PUSHCHENKO, V., inzh.

Extension indicator of the radar station "Don." Mer. flot 21
no. 6:18-19 Je '61. (MIRA 14:6)

(Radar in navigation)

SEYDL, O.

"History of the Museum Mathematicum Jesuitarium in the College of St. Clemens in the Old Town in Prague. p. 1-59." (VESTNIK, 1951, Praha, Czechoslovakia)

So: Monthly List of East European Accessions, LC, Vol. 3, No. 5, May 1954/Unclassified

SEYDL, O. ~~SE~~

2/000

8.1-59
 Seydl, Otto, K dvousetému výročí prvých měření meteorologických
 hundredth anniversary of meteorological observations in Bohemia. M
 Prague, 5(6):141-145, 1952. port. 33 refs. DLC—In addition to a
 position of meteorology in early European university curricula, this paper
 of the life and work of JOSEF STEPLING (1716-1778), first director of the as
 tory in Prague, who started regular meteorological observation in 175
 mediate successor was A. SRNAD who organized a meteorological network in
 Headings: 1. History of meteorology 2. Biography 3. Stepling, Josef—4
 slovakia.—G.T.

See

551.5(09) 55.92
 v Čechách. [Two
 eorologické Zprávy,
 rief survey of the
 contains a history
 ronomical observa-
 STEPLING's im-
 Bohemia. Subject
 Bohemia, Czecho-
 slovakia.—G.T.

SS
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SEYDL, OTTO

CZECH

6.3-19

SS1.5(09)

Seydl, Otto. *Meteorologické zprávy starých kronik*. [Meteorological reports in early chronicles.] *Meteorologické Zprávy*, 6(2):57-60, May 1953. Reviews of works by A. STANAD and W. KATZEROWSKY. STANAD wrote a chronological list of natural phenomena in Bohemia as described in early chronicles (633-1700). The 260-page work was published in 1790. KATZEROWSKY (1871-1901) published a number of similar works, mostly based on sources of the 16-18th centuries, related to observations of weather events in Litoměřice (Leitmeritz), Bohemia. *Subject Headings*: 1. Historic weather records 2. Bohemia, Czechoslovakia.—G.T.

SEYDL, OTTO

7.8-26

551.5:061(09)

Seydl, Otto, Mannheimská společnost meteorologická, 1780-1799. [The Mannheim Meteorological Society, 1780-1799.] Meteorologické Zprávy, Prague, 7(1):4-11, Feb. 1954, figs., 3 refs. DLC—The history of the Mannheim Meteorological Society is outlined (according to Traummüller). This society was founded in 1780 as a department of the Mannheim Academy of Science, and was in active operation for some 15 years. Meteorological observations were collected from the principal scientific centers of Europe (equipped by the Society) and from a station in Greenland and two in North America. Results were published in 13 volumes of Ephemerides (1780-1795) covering close to 7,000 pages. Summaries of these volumes are included. In addition to extensive data the Ephemerides contain descriptions of instruments and instructions for making observations by uniform methods as well as deductions made from a large variety of meteorological observations. Subject Headings: 1. History of meteorological organizations 2. Mannheim Meteorological Society.—G.T.

SEYDL., O.

Meteorologic platform at the Prague Observatory in Klementinum. p. 130.
Prague. METEOROLOGICKE ZPRAVY. Vo. 7, no. 5. No. 1954.

SOURCE: East European Accessions List (EEAL), LC, Vol. 5, no. 3, March 1956.

SEYDL, E.

551.506.8(09)
English and German summaries p. 133. DDC--The author deals with the beginnings of
phenological studies in Bohemia at the end of the 18th century and with the organization of
the Bohemian Phenological Society founded in 1769.
The author also mentions the work of the society in the 19th century.
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The author mentions the work of the society in the 19th century.

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SEYDL, OTTO

7.8-270

551.594.5(09)

✓ Seydl, Otto. Polární záře ve zprávách starých kronikářů. [Auroras in the records of old chroniclers.] *Meteorologické Zprávy*, Prague, 8(3):66-71, June 1955. 2 figs. Russian and English summaries p 66 DWB—Eighty descriptions of auroras observed in Bohemia from 1011 to 1405 are quoted from old Czech chronicles. Dates of the observations are indicated. The author discusses the vocabulary used in describing details of the appearance and movement of auroras. The phenomenon, extremely rare in Bohemia, was usually associated with the idea of fire and lightning. The first one is considered to be a harbinger of war and other disaster. Subject Heading: 1. Historical auroras 2. Bohemia

and

KE 224

SEYDL, O.

"Two hundredth anniversary of the birth of P. Martin Alois David
(1757-1957)."

p. 137 (Meteorologické Zpravy, Vol. 10, no. 6, Dec. 1957,
Praha, Czechoslovakia)

Monthly Index of East European Accessions (EEAI) LC, Vol. 7, no. 9,
September 1958

SEYDZHANOV, Yul. M.

Change in the meatiness of sheep of the Kazakh argali breed as related to the age and the conditions of maintenance. Izv. AN Kazakh. SSR. Ser. Biol. nauk 2 no.3:68-75 Ky-Je '64.

(MIRA 17:10)

SEYDMAN, A.L., inzhener.

Design of diaphragm mechanisms. Stan. 1 inst. 18 no.9:23 S '47.
(Chucks--Design) (MLRA 9:1)

SEYDMAN, A.L.

SEYDMAN, A.L.

Design for reinforcing cleaning drums. Lit.proizv. no.1:29
Ja '55. (MIRA 8:3)
(Foundry machinery and supplies)

AUTHOR: Seydman, A.L., Engineer SOV/118-58-12-12/17

TITLE: ~~The Single-Bucket~~ Hydraulic Excavator of the Type PEG-1
(Odnokovshovyy gidravlicheskiy ekskavator PEG-1)

PERIODICAL: Mekhanizatsiya trudoyemkikh i tyazhelykh rabot, 1958, Nr 12,
pp 38 - 39 (USSR)

ABSTRACT: Giprotopprom has designed, and the Orekhovo-Zuyevskiy zavod
"Torfmash" (the Orekhovo-Zuyevo "Torfmash" Plant) has produced and tested, a new tractor-drawn caterpillar excavator of the type PEG-1 equipped with a bucket of 0.2 cu meter capacity. The excavator can perform 6 different operations and its interchangeable equipment consists of a general purpose direct and reverse bucket, a crane suspension, an additional bucket of 0.5 cu meter capacity for the loading of peat, forks, and a profile shaped bucket. The excavator digs holes and ditches of various widths, loads loose material, peat etc. The crane suspension arm has a lifting capacity of 1.5 tons. It is planned to equip the excavator in the future with various additional devices. There is 1 table and 1 diagram.

Card 1/1

L 23709-66 EWT(m)/EWP(j)/T LJP(c) RM/WW
 ACC NR: AP6009425 (A) SOURCE CODE: UR/0020/66/166/006/1376/1377

AUTHOR: Seydov, N. M. (Academician AN AzerbSSR); Dalin, M. A.; Abasov, A. I.

ORG: All-Union Scientific Research Technological Institute on the Synthesis and Processing of Low-Molecular Olefins, Baku (Vsesoyuznyy nauchno-issledovatel'skiy tekhnologicheskiiy institut po polucheniyu i pererabotke nizkomolekulyarnykh olefinov); Experimental Plant, Baku (Opytnyy zavod)

TITLE: Copolymerization of ethylene and propylene in a liquid propylene medium

SOURCE: AN SSSR. Doklady, v. 166, no. 6, 1966, 1376-1377

TOPIC TAGS: ethylene, propylene, copolymerization

ABSTRACT: A study of the copolymerization of ethylene and propylene in the presence of vanadium triacetylacetonate (catalyst) with diisobutylaluminum chloride (cocatalyst) in liquid propylene is described. The components of the catalyst system were fed separately into the reaction zone in a stream of nitrogen: the catalyst in a 5% benzene solution and the cocatalyst in a 5% ligroin solution. The experiments were carried out in the -20° to +50°C range with an ethylene content of 4 to 15 mol % in the liquid phase. It was found that as the Al/V molar ratio increases, the yield of copolymer goes through a maximum and the intrinsic viscosity of the copolymer simultaneously decreases. The composition of the liquid phase and temperature have a more substantial effect on the copolymerization process. Thus, as the ethylene content of the li-

Card 1/2 UDC: 678-13

L 23709-66

ACC NR: AP6009425

quid phase rises, the molecular weight and yield of the copolymer increase and the reaction rate is accelerated. At the same time, the average lifetime of the catalyst becomes appreciably shorter. A stable reaction rate is observed at a 4% content of ethylene. As the temperature rises, the intrinsic viscosity of the copolymer falls off. From the copolymers obtained, a rubber mixture was prepared which was vulcanized with the aid of dicumyl peroxide. Orig. art. has: 1 figure, 2 tables.

SUB CODE: 07/ SUBM DATE: 26May65/ ORIG REF: 002/ OTH REF: 009

Card

2/2 *See*

BAKAYEV, M.T.; NUGMANOV, K.Kh.; SEYDUALIYEV, Z.S.; IBRAYEV, Sh.I.;
ULUKBEKOV, O.K.; IUSIN, A.Ch., doktor tekhn. nauk, prof.,
red.; ABDRAKHMANOV, A., kand. filolog. nauk; ASAINOV, M.,
red.; AYTNUKHAMBETOVA, S., red.; ZHUKOVA, N.D., red.;
KHUDYAKOV, A.G., tekhn. red.

[Russian-Kazakh dictionary of terminology] Russko-kazakhskii
terminologicheskii slovar'. Alma-Ata, Izd-vo Akad. nauk
Kazakhskoi SSR. Vol. 12 [Mining] Gornoe delo. 1962. 281 p.
(MIRA 15:11)

1. Akademiya nauk Kazakhskoy SSR, Alma-Ata. Institut yazy-
koznaniya.

(Mining engineering--Dictionaries)
(Russian language -Dictionaries--Kazakh)

SEYDUZOVA, S.S.; GROSS, I.Ch.; YESINA, A.I.; TROSTYANSKIY, G.D.

Regularities in the attenuation with distance of the density of the energy flow of seismic vibrations at periods of 0.3 to 0.9 seconds in Central Asia. Trudy Inst. mat. AN Uz. SSR no.25:133-146 '62.
(MIRA 16:8)

(Soviet Central Asia--Seismology)

~~SEYFER, A. L.~~ SEYFER, A. L.

~~Periodical Abstracts~~ Periodical Abstracts

USSR/Chemistry - Stearates
Chemistry - Alkali Metals

Jul 49

"Softening Points of Oleogels of Metal Stearates,"
A. L. Seyfer, 1 3/4 pp

"Dok Ak Nauk SSSR" Vol LXVII, No 2

Prepared oleogels of alkali-metal stearates with 30% stearate content by heating a mixture of MVP vaseline oil with stearic acid and concentrated caustic acids or by introducing specially prepared stearates of the general $MeSt_n$ formula into heated vaseline oil. Drop point of oleogels proved to be in inverse ratio to the ion potential. Submitted by Acad S. S. Nemetkin 27 Apr 49.

54/49721

SEYFER, A.L. (Baku)

Corrosion of metals by sea air and water. Priroda 44 no.12:78-79
D '55. (MLRA 9:1)

(Corrosion and anticorrosives)

SEYFER, A. L.

SEYFER, A. L. -- "The Protective Properties of Aluminum Smelted with Elements of the Second Group of the Periodic System." Ural Polytechnical Institute imeni S. M. Kirov, Chair of Analytical Chemistry, Sverdlovsk, 1956. (Dissertation for the Degree of Candidate of Chemical Sciences)

SO: Knizhnaya Letopis' No 44, October 1956, Moscow

SEYFER, A. L.

✓ Electrochemical character of aluminum protective alloys
Aluminum-magnesium alloys. M. S. Trifel, A. L.
Seyfer, and Yu. B. Slitsyna. Izv. Akad. Nauk Azerbaidzhan.
S.S.R. 1956, No. 5, 43-8 (In Russian). --The electrochem.
properties of Al-Mg and Al-Mg-Zn alloys were investigated. Addn.
of Mg shifted the initial electrode potential of the alloy toward the
neg. side, but had little influence on the anodic polarization. Addn.
of Zn to the Al-Mg alloy shifted somewhat the initial electrode
potential toward the neg. side, with a simultaneous sharp decrease in
anodic polarization. The high specific current efficiency at a high
neg. potential permits utilizing the alloys for anodic protection of
steel structures in sea water. B. M. Ekin

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SEYFER, A.L.

Protection against salt corrosion. Priroda 45 no.10:84-85 0 '56.
(MLRA 9:11)

1. Nauchno-issledovatel'skiy i proyektnyy institut Gipromorneft',
Baku.

(Corrosion and anticorrosives)

137-58-2-3531

5-11-1
Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 2, p 179 (USSR)

AUTHOR: Seyfer, A.L.

TITLE: Protective Properties of Aluminum Alloys Containing Elements in Group II of the Periodic Table (Protektornyye svoystva splavov alyuminiya s elementami vtoroy gruppy periodicheskoy sistemy)

PERIODICAL: Elmi kherler. Azerb. univ., Uch zap. Azerb. un-t, 1957, Nr 1, pp 39-53

ABSTRACT: An investigation was made of the protective properties of binary and ternary Al alloys with Li, Be, Mg, Ca, Sr, Ba, Zn, and Cd in Caspian Sea water, in 0.5N NaCl and 0.5N Na₂SO₄ solution. A measure of the resistance to corrosion was found in the difference in the potentials of the cathode and anode as a function of the polarizing current. Technically pure Al was taken as a standard of comparison for the upper limit and Mg alloy (ML-4) was taken as that for the lower limit. It is shown that in sea water and in NaCl solution the nature of the anode polarization with elements of the basic subgroup of group II of the periodic table is determined by the

Card 1/2

137-58-2-3531

Protective Properties of Aluminum (cont.)

destructibility of the protective oxide film by corrosion products. It was found that in Na_2SO_4 solutions the anode polarization of Al alloys with elements of the Ca subgroup is more significant than in other electrolytes. In that case, what occurs is not destruction of the protective film, but hardening of the film by formation of Ca, Sr, Ba sulfates on the surface of the metal. It was established that the ability of Zn to induce structural imperfection of the protective film in Al alloys is retained when a third component is introduced into the alloy (Li, Mg, or elements of the Ca subgroup). Simultaneously, these ternary alloys retain the ability of these elements to increase the electrically negative character of the entire system. It was found that Cd has, to an even greater extent than Zn, the ability to cause structural imperfections in the protective film of the protector. The corrosion strength of the alloys under investigation was evaluated in all 3 electrolytes by the method of Negreyev and Allakhverdiyev at operational D's. The employment of protectors made of ternary Al alloys for protection against corrosion by sea water and soil is proposed. Also see RzhMet, 1957, Nr 4, abstract 6481.

I. B.

1. Aluminum alloys--Corrosion resistance--Test results

Card 2/2

SEYFER, A. L.

Anodic polarizability in the neutral electrolytes of aluminum-alkaline earth alloys. Dokl. AN SSSR 116 no.1:120-122 S-O '57.

(MIRA 11:3)

1. Predstavleno akademikom I.I. Chernyayevym.
(Aluminum-alkaline earth alloys)

28(2)

SOV/26-59-5-20/47

AUTHORS: Vleduts, G.E., Seyfer, A.L., Candidates of Chemical Science

TITLE: Electronic Computer Information in Chemistry

PERIODICAL: Priroda, 1959, Nr 5, pp 86 - 88 (USSR)

ABSTRACT: The authors refer to the growing use of computers in economic planning, direction of production, and in solving technical problems. In particular, they describe the use of computers in selecting and summing up information, in respect to specific items, scattered over the great mass of published material. Such work is carried out sometimes in 10 - 15 min, including the work of the machine itself of only 1 min. The director of the Moscow Electromodelling Laboratory is Professor L.I. Gutenmakher. There are 2 diagrams and 4 references, 3 of which are English and 1 Soviet.

Card 1/2

SEYFER, A.L.; SHTEYN, V.S.

Concerning the conversion algorithm of a complex compound
given in a rational nomenclature to a linear formula.
Soob. LEM AN SSSR no.1:172-183 '60. (MIRA 15:2)
(Chemistry)
(Information theory)

SEYFER, A.L.

Methods for algorithmating the conversion of inorganic compounds to
formulas. Soob. LEM AN SSSR no.1:183-204. '60. (MIRA 15:2)
(Information theory)
(Chemistry)

28.2000 1013, 1031, 1121

25505

S/078/61/006/008/003/018
B121/B203

AUTHORS: Seyfer, A. L., Shteyn, V. S., and Shchurova, S. S.

TITLE: Use of electron computers for transducing names of complex compounds into formulas

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 6, no. 8, 1961, 1759-1761

TEXT: The authors give some chemical and logical principles for transducing names of complex compounds into formulas with a universal electron computer of the type JEM-1 (LEM-1). The use of electron computers is made on the basis of four basic blocks:

- (1) block for the separation of syllables,
- (2) analytic block,
- (3) block for combinations,
- (4) block for the synthesis of formulas.

In block (1), the chemical compound is divided into single syllables. The formula is simplified in block (2). Block (3) records parentheses and indices of formulas. Block (4) distributes parentheses and indices of complex compounds as dependent on the number of ligands and the character of complex compounds (anionic and cationic). The entire process from
Card 1/2

Use of electron computers...

25503

S/O 8/61/006/008/003/018
B12/B203

introducing the name of the complex compound to the printing of the formula is automatic and consists of 3500 - 6000 logical and arithmetical operations. It takes 3-5 seconds. The process is explained with the aid of examples such as: dicyano-(1+)-potassium argentate was introduced; the electron computer supplied the following figures: 00212 00001 37777 00201 00001 00205 00002 37777 00001, which correspond to the formula: $K_1(Ag_1(CN)_2)_1$. There are 1 table and 8 references: 7 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: Ref. 7: JUPAC, Nomenclature of Inorganic Chemistry, 1957. Report of the Commission of Nomenclature of Inorganic Chemistry, L, 1959.

ASSOCIATION: Institut nauchnoy informatsii Akademii nauk SSSR (Institute of Scientific Information of the Academy of Sciences USSR)

SUBMITTED: May 5, 1960

Card 2/2

SEYFER, A.L.; SHTEYN, V.S.

Topology of the diagrams: composition - property for binary systems.
Zhur.neorg.khim. 6 no.12:2719-2723 D '61. (MIRA 14:12)

1. Institut nauchnoy informatsii AN SSSR.
(Systems (Chemistry))

SEYFER, A.L.; SHCHUROVA, S.S.; POLYUSUK, Yu.A.

Automatic information retrieval system for inorganic compounds, NTI no.10:26-29 '63. (MIRA 17:1)

SEYFER, A.L.; SMOLENSKIY, Ye.A.

Formal method of correlating properties of alkanes. Part 1.
Zhur. fiz. khim. 37 no.12:2657-2662 D '63. (MIRA 17:1)

1. Institut nauchnoy informatsii AN SSSR.

VASIL'YEV, A.M., doktor tekhn. nauk, red.; SEYFER, A.L., kand.
khim. nauk, red.; SHREYDER, Yu.A., kandi. fiz.-mat. nauk,
red.; KRITSKAYA, Z.P., red.

[Informational systems] Informatsionnye sistemy. Moskva,
In-t nauchn. informatsii, 1964. 176 p. (MIRA 17:12)

1. Akademiya nauk SSSR. Institut nauchnoy informatsii.

BABAYEVA, A.P.; SEYFER, A.I.

Automatic reference tool on the properties and use of steel
and alloys on a non-iron base. NTI no.4:16-39 '64.

(MIRA 17:6)

SEYFER, A.L.; SMOLENSKIY, Ye.A.

Formal method of finding regularities in the properties of alkanes.
Zhur. fiz. khim. 38 no.1:202-203 Ja'64. (MIRA 17:2)

1. Institut nauchnoy informatsii AN SSSR.

SEYFER, A.I., SMOLENSKIY, Ye.A.

Taking the interaction of pairs of bonds into account in the
determination of the properties of alkanes. Zhur. fiz. khim.
38 no.9:2230-2234 S '64. (MIRA 17:12)

1. Institut nauchnoy informatsii AN SSSR, Moskva.

L 38548-65 EWT(d)/TDB(jj)/EXT/T/EED-2/ENP(1) - Pq-4/Pg-4/Pk-4 IJP(c) BB/CC
 ACCESSION NR: AP5007985 S/0315/65/000/001/0023/0025

AUTHORS: Seyfer, A. L.; Matveyeva, A. A.; Pantyukhina, M. Ye. 49
 B

TITLE: Machine translation of formulae of inorganic compounds in systematic nomenclature 166

SOURCE: Nauchno-tekhnicheskaya informatsiya, no. 1, 1965, 23-25

TOPIC TAGS: chemical identification technique, information storage and retrieval, chemical, chemistry, information processing, data processing / Ural 4 computer

ABSTRACT: The problem of selecting a standardized system of inorganic compound nomenclature so that it is possible to store, retrieve, and process chemical formulae in computer memory is discussed. The requirements of such a language are: 1) that it be formal and nonambiguous, 2) that it be processable by a computer with a minimal complement of peripheral equipment, 3) that it be absolutely universal, i.e., that it cover all possible inorganic compounds. A review of extant and proposed chemical nomenclature systems is included. Note is made of ambiguities and limitations found in each. The nomenclature of B. V. Nekrasov (Ratsional'naya nomenklatura neorganicheskikh soyedineniy. "Khimiya v shkole" 1964, No. 10, 48) was used in the pilot system. If a formula is represented in

Card 1/2

L 38548-65

ACCESSION NR: AP5007985

the form Aa Bb Cc Dd..., the form aa bb cc dd can be used in the translation. The translator process takes place on a Ural-4 computer with the aid of a stored chemical dictionary with elements, valences, and atomic groups. The majority of elements are stored by their Russian names. The atomic grouping consists of 100 dictionary entries stored according to terminology generally accepted in chemical literature. Translation of a single name requires less than one second of machine time; the program for translation consists of 2000 instructions. Several examples of translation are given.

ASSOCIATION: none

SUBMITTED: 05Oct64

ENCL: 00

SUB CODE: DP,IC

NO REF SOV: 008

OTHER: 001

16
Card 2/2

L 39317-65 EWT(d)/TDB(j)/EEC(f)/EXT/EED-2/EWP(1) Pg-4/Pg-4/Pk-4 IJP(c)
 AVE/BB/33/JXT(BF)

ACCESSION NR: AP5005853

S/0028/65/000/001/0048/0052

AUTHORS: Seyfer, A. L. (Candidate of chemical sciences); Shurova, S. S.

TITLE: Automatic information system for properties of substances

SOURCE: Standartizatsiya, ²⁹⁻no. 1, 1965, 48-52

TOPIC TAGS: data processing system, inorganic compound, chemical property,
information storage and retrieval / Ural 4 computer

¹⁸⁶
 ABSTRACT: An experimental automatic information-logistics system for physico-chemical properties of substances has been established at VINITI. The system uses a medium class universal computer of the type "Ural-4" which has an operating memory (ferrite core) of 2048 words (40 binary bits each) and has several magnetic drum (16 000 words each) and magnetic tape (64 000 words each) memories. Input is from punched tapes or cards, and output is either on punched cards or printed. Of the 300 or so different kinds of properties which are widely used (primarily physico-chemical properties are of interest here), 120 of the most important ones can be used in the system: thermo-chemical (temperature and heat of phase changes, energy and entropy of formation); thermo-physical (vapor pressure, solubility, density, viscosity); bond length and angle; optical (refraction, polarization).

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L 39317-65

ACCESSION NR: AP5005853

magnetic, etc. All properties are coded, forming three types: a) those that can be answered by "yes" or "no;" b) numerical characteristics; c) coefficients which go into some equation describing the property. The system, at present, has only inorganic compound properties, but only 7-8% of the total required data are available; the other 92-93% represent "voids," primarily because many of the properties have not yet been investigated or published. Three types of searches can be performed on the stored data: a) find and print out certain properties of certain compounds; b) find and print out all properties of a certain compound; c) find and print out all compounds meeting certain restrictions on their properties (for example, all compounds which melt between 150 and 180C). A special property batching procedure in the memory reduces search time of a "property packet" (40 compounds) and search within the packet for a type C search to 5-6 seconds. A type C search of all inorganic compounds takes 20-25 min. By inverting the data storage according to properties rather than compounds, it is hoped to decrease the 20-25 minutes to 1 minute for the class C search. Orig. art. has: 2 figures. ASSOCIATION: Laboratoriya elektromodelirovaniya VINITI (Electromodeling Laboratory of the VINITI)

SUBMITTED: 00

ENCL: 00

SUB CODE: DP, IC

NO REF SOV: 003

OTHER: 001

Card 2/2 *AS*

SMOLENSKIY, Ye.A.; SEYFER, A.L.; GAL'CHENKO, G.L.

Approximate method of calculating the physicochemical properties of compounds of the $A(R_1..R_k)$ type. Zhur. fiz. khim. 39 no.9:2142-2144 S '65. (MIRA 18:10)

SEYFER, G.B.

TANANAYEV, I.V.; GLUSHKOVA, M.A.; SEYFER, G.B.

Chemistry of lanthanum ferrocyanides and their application in analytic chemistry. Khim.redk.elem. no.1:58-86 '54. (MIRA 8:3)

1. Institut obshchey i neorganicheskoy khimii im. N.S.Kurnakova AN SSSR.

(Lanthanum ferrocyanide)

SEYFER, G.B.

488

✓ Yttrium and cerium ferrocyanides. I. V. Tananaev and G. B. Seyfer. *Zhur. Neorg. Khim.* 1, No. 1, 63-64 (1950). —
 Chem In the system $\text{Ce}(\text{NO}_3)_3\text{-Li}_4[\text{Fe}(\text{CN})_6]\text{-H}_2\text{O}$, with $\text{Ce}(\text{NO}_3)_3$ concn. initially at 0.05 mol./l., addn. of $\text{Li}_4[\text{Fe}(\text{CN})_6]$ causes stoichiometric pptn. of $\text{Ce}_2[\text{Fe}(\text{CN})_6]_3 \cdot 20\text{H}_2\text{O}$ (I), whose water soly. at $25^\circ \pm 0.1^\circ$ is 1.3×10^{-4} mole/l. In the system $\text{Ce}(\text{NO}_3)_3\text{-Na}_4[\text{Fe}(\text{CN})_6]\text{-H}_2\text{O}$, I is pptd. initially. If $\text{Na}_4[\text{Fe}(\text{CN})_6]$ is added in excess, the solid phase becomes $\text{Na}_4\text{Ce}_2[\text{Fe}(\text{CN})_6]_3 \cdot x\text{H}_2\text{O}$, whose soly. is 2.1×10^{-4} mole/l. In the system $\text{Y}(\text{NO}_3)_3\text{-K}_4[\text{Fe}(\text{CN})_6]\text{-H}_2\text{O}$, only $\text{K}_4\text{Y}_2[\text{Fe}(\text{CN})_6]_3 \cdot 30\text{H}_2\text{O}$ ppts. (soly. 6.2×10^{-4} mole/l.). In the system $\text{Ce}(\text{NO}_3)_3\text{-K}_4[\text{Fe}(\text{CN})_6]\text{-H}_2\text{O}$ the ppt. is $\text{KCe}[\text{Fe}(\text{CN})_6] \cdot 2\text{H}_2\text{O}$ (soly. 2.4×10^{-4} mole/l.). In $\text{Y}(\text{NO}_3)_3\text{-Rb}_4[\text{Fe}(\text{CN})_6]\text{-H}_2\text{O}$ only $\text{RbY}[\text{Fe}(\text{CN})_6] \cdot 2\text{H}_2\text{O}$ is pptd. (soly. 1.8×10^{-4} mole/l.). In $\text{Ce}(\text{NO}_3)_3\text{-Rb}_4[\text{Fe}(\text{CN})_6]\text{-H}_2\text{O}$ the ppt. is $\text{RbCe}[\text{Fe}(\text{CN})_6] \cdot 2\text{H}_2\text{O}$ (soly. 7.1×10^{-4} mole/l.). In $\text{Y}(\text{NO}_3)_3\text{-Cs}_4[\text{Fe}(\text{CN})_6]\text{-H}_2\text{O}$ the ppt. is $\text{CsY}[\text{Fe}(\text{CN})_6] \cdot 2\text{H}_2\text{O}$ (soly. 5.3×10^{-4} mole/l.). In $\text{Ce}(\text{NO}_3)_3\text{-Cs}_4[\text{Fe}(\text{CN})_6]\text{-H}_2\text{O}$ the ppt. is $\text{CsCe}[\text{Fe}(\text{CN})_6] \cdot 2\text{H}_2\text{O}$ (soly. 1.7×10^{-4} mole/l.). In the systems $\text{Y}(\text{NO}_3)_3\text{-Li}_4[\text{Fe}(\text{CN})_6]\text{-H}_2\text{O}$ and $\text{Y}(\text{NO}_3)_3\text{-Na}_4[\text{Fe}(\text{CN})_6]\text{-H}_2\text{O}$, no Y ferrocyanide is pptd. It is therefore suggested that pptn. with $\text{Na}_4[\text{Fe}(\text{CN})_6]$ or $\text{Li}_4[\text{Fe}(\text{CN})_6]$ may be useful in sepg. Ce from Y. C. H. F.

RM

SEYFER, G.B.

2
Mixed ferrocyanide of lithium and cesium. I. V. Tana-
naev and G. B. Seyfer. Zhur. Neorg. Khim. 1, No. 1,
84-8 (1956). $\text{Cs}_2\text{Li}[\text{Fe}(\text{CN})_6]$ is obtained by the addn. of
CsCl to a strong soln. of $\text{Li}[\text{Fe}(\text{CN})_6]$, filtering the ppt. af-
ter 12 hrs., washing with 25% EtOH, and drying in air.
C. H. Fuchsman

PM

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SEYFER, G. B.

4

✓ Series of ferrocyanide solubilities. I. V. Tashnazy,
M. A. Glushkova, and G. B. Seyfer. *Zhur. Neorg. Khim.* 1,
No. 1, 63-8 (1958).—The order of increasing soly. of ferro-
cyanides, and their solubilities (as g. ions/l. of their respec-
tive metals) are: $\text{In}^{+++} 2.3 \times 10^{-4}$; $\text{Fe}^{+++} 6.4 \times 10^{-4}$;
 $\text{Cd}^{++} 6.4 \times 10^{-4}$; $\text{Cu}^{++} 1.0 \times 10^{-3}$; $\text{Zn}^{++} 1.5 \times 10^{-3}$;
 $\text{Ni}^{++} 2.0 \times 10^{-3}$; $\text{Co}^{++} 3.4 \times 10^{-3}$; $\text{Pb}^{++} 3.0 \times 10^{-3}$;
 $\text{Mn}^{++} 4.0 \times 10^{-3}$; $\text{Ga}^{+++} 6.0 \times 10^{-3}$; $\text{UO}_2^{++} 8.0 \times 10^{-3}$.
C. H. Fuchsman

EM

~~SEYFER, G.B.~~ SEYFER, G.B.

7
The solubility of $\text{Cs}(\text{PbCH}_3\text{COO})_2[\text{Fe}(\text{CN})_6]$ in water-alcohol mixtures. I. V. Tuganov and G. B. Seyfer. Zhur. Neorg. Khim. 1, 981-3 (1958). The sample of $\text{Cs}(\text{PbCH}_3\text{COO})_2[\text{Fe}(\text{CN})_6]$ (I) was prepd. and analyzed to verify its formula. Its soly. was detd. in EtOH-H₂O mixt. over a concn. range for EtOH of 0-90.0%. For concns. of EtOH of >80% there is no trace of I in soln. The soly. data show that for low EtOH concn. the compd. is dissolved congruently, but as the EtOH concn. is increased the Pb^{++} ions go into soln. preferentially, and it is proposed that at high EtOH concn. the following decompn. takes place: $\text{Cs}(\text{PbCH}_3\text{COO})_2[\text{Fe}(\text{CN})_6] \rightarrow \text{CsPb}[\text{Fe}(\text{CN})_6] + \text{Pb}(\text{CH}_3\text{COO})_2$.

I. B. Tuganov

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USSR/Inorganic Chemistry - Complex Compounds.

C.

Abs Jour : Ref Zhur - Khimiya, No 9, 1957, 30291

Author : Tananayev, I.V., Seyfer, G.B.

Inst :

Title : Mixed Ferrocyanides of Magnesium, Rubidium and Cesium

Orig Pub : Zh. neorgan. khimii, 1956, 1, No 9, 2017-2023

Abst : On the basis of the results of a study of the system $MCl - Mg_2[Fe(CN)_6] \cdot H_2O$, wherein M is Rb or Cs, by the solubility method, it was found that the composition of the solid phase that separates, corresponds to the formula $3M_4[Fe(CN)_6] \cdot 4Mg_2[Fe(CN)_6] \cdot 12H_2O$. The composition is not altered on use of an excess of both components, in the case of Rb, while in the case of Cs, an excess of $Mg_2[Fe(CN)_6]$ causes the formation of $Cs_4[Fe(CN)_6] \cdot 2Mg_2[Fe(CN)_6] \cdot 10H_2O$.

Card 1/1

Ferrocyanides of Trivalent Iron (Cont.)

560

in excess (systems with $K_4(Rb_4, Cs_4)[Fe(Cn)_6]$), an effect evidently due to coprecipitation of the alkali metal.

$M_4[Fe(Cn)_6]$ enters the precipitate as soon as the precipitation of iron is complete even with lithium and sodium. This is especially pronounced with rubidium and caesium. The contents of alkali metal in the precipitate increased according to the series $K - Rb - Cs$.

It appears that with potassium, rubidium and caesium mixed salts of the simplest type $M Fe[Fe(Cn)_6]$ are formed at first. It is very likely that the salts $RbFe[Fe(Cn)_6]$ and $CsFe[Fe(Cn)_6]$ do exist, but they react easily with $M_4[Fe(Cn)_6]$ to form a second mixed salt of the composition $M_6Fe_2[Fe(Cn)_6]_3$.

Although the continued adsorption of $M_4[Fe(Cn)_6]$ by the precipitate makes the interpretation of the experimental curves difficult the possibility of the formation of new incongruently soluble mixed salts of definite composition is not excluded.

As regards the strength of the bond in mixed ferrocyanoïdes of iron and alkali metals, the latter can be arranged in the usual series with caesium having the greater strength and lithium the least. Apparently in the mixed salts the alkali metals can mutually replace each other according to the above order. From this point of view mixed ferrocyanoïdes of trivalent iron can be considered as inorganic prototypes of ion-exchange resins.

14 Figures and 5 Tables.

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78-3-15/35

Mixed Ferrocyanides of Calcium with Rubidium and Caesium.

$[\text{Fe}(\text{CN})_6]^{4-} : \text{Rb}^+$ and of $[\text{Fe}(\text{CN})_6]^{4-} : \text{Ca}^{2+}$ do not depend on the ratio of either component in the mixture, that is the precipitate obtained is constant in composition. The mixed ferrocyanide obtained is represented by the formula $\text{Rb}_2\text{Ca}[\text{Fe}(\text{CN})_6]$. Similar results were obtained for the caesium system, the precipitate here being $\text{Cs}_2\text{Ca}[\text{Fe}(\text{CN})_6]$. Although results obtained suggested that the formation of the mixed ferrocyanides of calcium could be used for the gravimetric determination of rubidium and caesium, it was found that this could only be done with perfectly pure solutions, since the solubility of the precipitates formed is very strongly affected by the ionic strength of the solution; further, the small difference in the solubilities of the rubidium and caesium salts makes it unlikely that the reaction could be used for separating rubidium and caesium. There are 2 figures, 2 tables,

Card 2/3 and 8 references 2 of which are Slavic.

SEYFER, G. B.

The crystalline alcoholate of cesium carbonate with methyl alcohol.
Zhur. neorg. khim. 2 no.5:1055-1056 My '57. (MLRA 10:8)
(Alcoholates) (Cesium carbonate) (Methanol)

20-1-32/44

AUTHOR: Seyfer, A.L.

TITLE: Anodic Polarizability in Neutral Electrolytes of Alloys of Aluminum with Alkaline Earth Elements (Anodnaya polyarizuyemost' v neytral'nykh elektrolitakh splavov Al so shchelochno-zemel'nymi elementami)

PERIODICAL: Doklady AN SSSR, 1957, Vol. 116, Nr 1, pp. 120 - 122 (USSR)

ABSTRACT: It was interesting to study the anodic polarizability of the alloys of aluminum with calcium and of strontium with barium, not only in sea water, but also in their "border case models", in the solutions of sodium sulphate and sodium chloride, for the chloride of anodic polarizability in the aforementioned electrolytes may give an indication of the character of the production- or destruction of the protective layers on the surface of the electrode. The first-mentioned alloys will be produced by the dissolution of the corresponding pure metals in aluminum of a high degree of purity under a carnallite layer. The anodic polarizability of these solutions was measured in water of the Caspian Sea and in 0,5 N-solutions of NaCl and Na₂SO₄ at amperages of the polarization current of up to

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Anodic Polarizability in Neutral Electrolytes of Alloys of Aluminum with Alkaline Earth Elements

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bility of the alloys in seawater to the polarizability in NaCl solution. There are 3 figures, 1 table and 5 references, 2 of which are Slavic.

PRESENTED: May 23, 1957, by I.I. Chernyayev, Academician
SUBMITTED: December 12, 1956
AVAILABLE: Library of Congress

Card 3/3

About the Orthoperiodate of Trivalent Iron

SOV/78-3-10-14/35

There are 2 figures, 1 table, and 6 references, 2 of which are Soviet.

SUBMITTED: July 17, 1957

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5(2)

SOV/78-4-6-25/44

AUTHORS: Seyfer, G. B., Ionova, Ye. A.

TITLE: On the Scandium Ferrocyanides (O ferrotsianidakh skandiya)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 6, pp 1362-1368 (USSR)

ABSTRACT: The system $\text{ScCl}_3\text{-M}_4[\text{Fe}(\text{CN})_6]\text{-H}_2\text{O}$ (M = Li, Na, Cs, K and Rb)

was investigated by the solubility method, electric conductivity, potentiometric method, and light absorption. The results of the investigation of the system $\text{ScCl}_3\text{-Li}_4[\text{Fe}(\text{CN})_6]\text{-H}_2\text{O}$ are given in table 1 and in figure 1. They show that only a normal scandium ferrocyanide $\text{Sc}_4[\text{Fe}(\text{CN})_6]_3$ is formed in this system. The investigation results of the system $\text{ScCl}_3\text{-Na}_4[\text{Fe}(\text{CN})_6]\text{-H}_2\text{O}$ and $\text{ScCl}_3\text{-K}_4[\text{Fe}(\text{CN})_6]\text{-H}_2\text{O}$ are given in table 2 and in the figures 2 and 3. The interaction between these systems proceeds initially under formation of normal scandium ferrocyanide - $\text{Sc}_4[\text{Fe}(\text{CN})_6]_3$ and with the increase of the sodium- and potassium ferrocyanides in the solution, scandium ferrocyanide probably peptizes under formation of a compound with changing composition -

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On the Scandium Ferrocyanides

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$m\text{Sc}_4[\text{Fe}(\text{CN})_6] \cdot n\text{MSc}[\text{Fe}(\text{CN})_6]_3$ in which the ratio $m : n$ depends on the concentration of the alkali metals. The compound of the composition $\text{MSc}[\text{Fe}(\text{CN})_6]$ ($\text{M} = \text{Na}$ or K) is formed with the increase of the alkali ion concentration. The influence of the alkali metal chlorides on the composition of the produced ferrocyanide was investigated and the results are given in table 3. The investigation results of the systems $\text{ScCl}_3\text{-Rb}_4[\text{Fe}(\text{CN})_6]\text{-H}_2\text{O}$ and $\text{ScCl}_3\text{-Cs}_4[\text{Fe}(\text{CN})_6]\text{-H}_2\text{O}$ are given in table 4 and in the figures 4 and 5. The mixed salts $\text{RbSc}[\text{Fe}(\text{CN})_6]$ and $\text{CsSc}[\text{Fe}(\text{CN})_6]$ are formed in the systems of the ferrocyanides of rubidium and cesium. There are 5 figures, 4 tables, and 6 references, 3 of which are Soviet.

SUBMITTED: March 28, 1958

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5(2)

SOV/78-4-8-25/43

AUTHOR:

Seyfer, G. B.

TITLE:

On the Zeolitic Properties of the Ferrocyanides (O tseolitnykh svoystvakh ferrotsianidov)

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 8, pp 1860-1863 (USSR)

ABSTRACT:

It was found (Refs 1,2) that ferrocyanides dried at 100° or over a dehydrating agent again absorb humidity from the air. According to reference 3 the addition of ammonia may also take place in this way. The assumption is expressed that ferrocyanides behave in similar way as the natural and synthetic zeolites. For this reason the sorption ability of the ferrocyanides was not only investigated with respect to water but also with respect to alcohol, acetone and toluene. Simple ferrocyanides of divalent metals served as experimental objects: $\text{Me}_2 [\text{Fe}(\text{CN})_6]$ (Me = Mn, Co, Ni, Zn, Cd, Pb) and their double salts with cesium $\text{Cs}_4\text{Me}_4 [\text{Fe}(\text{CN})_6]_3$ and $\text{Cs}_2\text{Me} [\text{Fe}(\text{CN})_6]$. Cesium was chosen because of its marked tendency towards the formation of mixed ferrocyanides. The compounds freed from water of

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On the Zeolitic Properties of the Ferrocyanides

hydration at 120-125° were stored in exsiccators over water, toluene, ethyl alcohol or acetone until the equilibrium constancy was attained. They were then again dried until they had attained their original weight. The data of water adsorption at atmospheric pressure are shown by table 1 and figures 1-3. Table 2 and figure 4 show the dependence of water adsorption of $\text{Cs}_2\text{Cd}[\text{Fe}(\text{CN})_6]$ at different steam pressure. In table 3 and figures 5 and 6 the adsorption data of alcohol, toluene and acetone are given. The reversibility found for the sorption confirms the zeolitic nature of the ferrocyanides of divalent metals. The ferrocyanides of trivalent metals are assumed to behave in similar way. There are 6 figures, 3 tables, and 6 references, 2 of which are Soviet.

SUBMITTED: April 28, 1958

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5(2,3)

SOV/20-127-3-29/71

AUTHORS: Tananayev, I. V., Academician, Seyfer, G. B., Ionova, Ye. A.

TITLE: The Niobium Analogue of Phosphorus Nitryl Chloride

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 127, Nr 3,
pp 584 - 585 (USSR)

ABSTRACT: In recent times the interest in high-polymers of inorganic origin rapidly increased. The substance mentioned last in the title also belongs to the group of this kind which, although known for a long time, has not been of great interest, and is now being investigated most eagerly. It was interesting to explain the possibility of the existence of derivatives of a similar type among elements which are analogues of phosphorus. No published data could be found in this connection. The elements of the arsenic group do not fall within this scope, but the elements of the sub-group of vanadium, in a higher valence stage, are analogous to phosphorus, as far as the structure of the outer electronic shell is concerned. Among them niobium was suited best for an introducing investigation. Its higher chloride (which

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The Niobium Analogue of Phosphorus Nitryl Chloride

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is lacking in vanadium) can be immediately used according to the experimental method which is analogous to that of the production of phosphonitrile chloride (Refs 1-6). The method of reference 4 was easiest for the authors, since it allows an observation of the degree of the reaction course, according to the rate of the HCl separation. The developed product is a finely crystalline yellowy brown powder, resistant in air, but slowly hydrolyzable in water. In benzene, toluene, dichlorethane, CS_2 , CCl_4 and ethylether it is not noticeably soluble. Analytic results are given. The given data show that the original supposition regarding the possibility of the existence of a niobium compound with a composition analogous to that of phosphonitrile chlorides, has been proved. The investigation of their properties is still going on. There are 6 references, of which 1 is Soviet.

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The Niobium Analogue of Phosphorus Nitryl Chloride

SOV/20-127-3-29/71

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova
Akademii nauk SSSR (Institute of General and Inorganic Chemistry
imeni N. S. Kurnakov of the Academy of Sciences, USSR)

SUBMITTED: May 15, 1959

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SOV/78-5-1-12/45

5 (2)

AUTHOR:

Seyfer, G. B.

TITLE:

On the Thermal Decomposition of the Ferrocyanides of Iron

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1960, Vol 5, Nr 1, pp 68 - 72
(USSR)

ABSTRACT:

The author refers to data contained in publications concerning the thermal stability of ferrocyanides of iron (Refs 1-8), which are based solely on the analysis of decomposition products, and reports on his results obtained by plotting thermograms, Debye patterns, and chemical analysis. He investigated the compounds $\text{Fe}_4[\text{Fe}(\text{CN})_6]_3$ and $\text{CsFe}[\text{Fe}(\text{CN})_6]$. The thermal decomposition was investigated in argon atmosphere by the use of a Kurnakov pyrometer (Fig 1). The decomposition of $\text{Fe}_4[\text{Fe}(\text{CN})_6]_3$ begins already at room temperature, with a part of the bivalent iron passing from the complex anion to the outer sphere, while at the same time the Fe of the outer sphere is reduced and the liberated cyanogen polymerizes to cyanurcyanide. This reaction is completed at 205° . At 260° , viz near the boiling point of

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On the Thermal Decomposition of the Ferrocyanides of Iron SOV/78-5-1-12/45

cyanuricyanide (hexacyanogen) cyanogen polymers separate. On further heating the composition of the solid phase remains unchanged. The effect observed at 405° is interpreted as being a depolymerization of $\text{Fe}_2[\text{Fe}(\text{CN})_6]$ to simple Fe^{II} cyanide. Also the Debye pattern (Fig 2) of the sample heated to 420° points to a sweeping change of the crystal structure. The further decomposition of ferrocyanide takes place under the formation of cementite, free carbon, and free nitrogen, which was volumetrically determined. This reaction is completed at 560°. The slight exothermal effect observed at 660° can be probably explained by a polymorphous transformation of cementite. The thermogram of $\text{CsFe}[\text{Fe}(\text{CN})_6]$ (Fig 3) shows the same course, the effects, however, are less intense due to the lower iron content of the compound. The single additional thermal effect at 745° is explained by the melting of the liberated cesium cyanide. There are 3 figures and 12 references, 3 of which are Soviet.

SUBMITTED:
Card 2/2

October 29, 1958

SEYFER, G.B.

Thermal decomposition of copper ferrocyanide. Zhur.neorg.khim. 7
no.3:482-486 Mr '62. (MIRA 15:3)

1. Institut obshchey i neorganicheskoy khimii imeni N.S.Kurnakova
AN SSSR.

(Copper ferrocyanide)

SEYFER, G.B.

Thermal decomposition of alkali metal ferrocyanides. Zhur.-
neorg.khim. 7 no.6:1242-1246 Je '62. (MIRA 15:6)
(Alkali metal ferrocyanides)

TANANAYEV, I.V., akademik: SEYFER, G.B.

Normal orthophosphate of niobium. Dokl. AN SSSR. 144 no.6:1314-1315
Je '62. (MIRA 15:6)

1. Institut obshchey i neorganicheskoy Khimii im. N.S.Kurnakova
Akademii nauk SSSR.
(Niobium phosphates)

SEYFER, G.B.

Zeolite nature of transition metal ferrocyanides. Zhur.neorg.-
khim. 7 no.5:1208-1209 My '62. (MIRA 15:7)
(Transition metal ferrocyanides) (Zeolites)